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**Amendment to the Claims:**

This listing of the claims will replace all prior versions, and listings, of claims in the application.

**Listing of the Claims:**

Claims 1-111 (Cancelled).

112. (Currently Amended) A method implemented in a computer for recording content distribution information in an adjunct to content, comprising: performing an exclusive-OR operation a functional transformation on information in an adjunct to content with copier related information each time a an authorized copy of the content is generated in a succession of copies of the content so that the information in the adjunct is modified to include the copier related information for the generation of each such authorized copy, ~~wherein the functional transformation is characterized by an inverse transformation from which the copier related information for each such authorized copy is retrievable from the modified adjunct and the adjunct is smaller than a concatenation of the copier related information for the succession of copies of the content.~~

113. (Cancelled).

114. (Previously Presented) The method according to claim 112, wherein the modified adjunct is provided with the copy of the content.

115. (Cancelled).

116. (Previously Presented) The method according to claim 112, wherein the adjunct is a watermark embedded in the content.

117. (Previously Presented) The method according to claim 112, wherein the adjunct is meta data associated with the content.

118. (Previously Presented) The method according to claim 112, wherein the adjunct is a signature related to the content.

119. (Previously Presented) The method according to claim 118, wherein the signature is a message digest or a hash value calculated using the content.

120. (Previously Presented) The method according to claim 112, wherein the content is copyrightable material.

121. (Currently Amended) The method according to claim 112, wherein the copier related information includes information of a user identification associated with a user of a copier used for generation of a ~~an~~ authorized copy of the content.

122. (Currently Amended) The method according to claim 112, wherein the copier related information includes information of an IP address associated with a copier used for generation of a ~~an~~ authorized copy of the content.

123. (Currently Amended) The method according to claim 112, wherein the copier related information includes information of a copy device used for generation of a ~~an~~ authorized copy of the content.

124. (Currently Amended) An apparatus for recording content distribution information in an adjunct to content, comprises a copier configured to: perform an exclusive-OR operation a functional transformation on information in an adjunct to content with copier related information each time a an authorized copy of the content is generated in a succession of copies of the content so that the information in the adjunct is modified to include the copier related information for the generation of each such authorized copy, ~~wherein the functional transformation is characterized by an inverse transformation from which the copier related information for each such authorized copy is retrievable from the modified adjunct and the adjunct is smaller than a concatenation of the copier related information for the succession of copies of the content.~~

125. (Currently Amended) A method implemented in a computer for extracting content distribution information from a copy of content, comprising: performing an exclusive-OR operation a plurality of times on sequentially performing an inverse transformation on and extracting content distribution information from an adjunct to a copy of content generated from a succession of copies of the content so that copier related information for each copy of the content in the succession of copies is extracted one-at-a-time in inverse order following each performance of the exclusive-OR operation until information of an original copy of the content is detected, ~~wherein the adjunct contains copier related information provided using a functional transformation corresponding to the inverse transformation for a succession of copies of the content leading up to the copy upon which the inverse transformation is being performed.~~

126. (Currently Amended) The method according to claim 125, wherein an exclusive-OR operation the functional transformation was used to modify the adjunct with copier related information upon each successive generation of a an authorized copy of the content originating from the original copy of the content.

127. (Cancelled).

128. (Cancelled).

129. (Previously Presented) The method according to claim 125, wherein the adjunct is a watermark embedded in the content.

130. (Previously Presented) The method according to claim 125, wherein the adjunct is meta data associated with the content.

131. (Previously Presented) The method according to claim 125, wherein the adjunct is a signature related to the content.

132. (Previously Presented) The method according to claim 125, wherein the content is copyrightable material.

133. (Previously Presented) The method according to claim 125, wherein the copier related information includes information of a user identification associated with a user of a copier.

134. (Previously Presented) The method according to claim 125, wherein the copier related information includes information of an IP address associated a copier.

135. (Currently Amended) The method according to claim 125, wherein the copier related information includes information of a copy device used in generating a copy of the content, ~~by a copier.~~

136. (Currently Amended) An apparatus for extracting content distribution information from a copy of content, comprising a device configured to perform an exclusive-OR operation a plurality of times on sequentially perform an inverse transformation on and extract content distribution information from an adjunct to a copy of content generated from a succession of copies of the content so that copier related information for each copy of the content in the succession of copies is extracted one-at-a-time in inverse order following each performance of the exclusive-OR operation until information of an original copy of the content is detected, wherein the adjunct contains copier-related information provided using a functional transformation corresponding to the inverse transformation for a succession of copies of the content leading up to the copy upon which the inverse transformation is being performed.

137. (Currently Amended) A method implemented in a computer for recording content distribution information in an adjunct to content, comprising: performing an exclusive-OR operation a functional transformation on information in an adjunct to content with identifying information of a network node in a packet of data when the packet of data is relayed by the [[a]] network node so that the information in the adjunct is modified to include the identifying information of the network node, wherein the functional transformation is characterized by an inverse transformation which may be used to subsequently retrieve the identifying information from the adjunct.

138. (Currently Amended) The method according to claim 137, wherein the adjunct is further modified to include information indicating an approximate time when the exclusive-OR operation functional transformation is being performed.

139. (Currently Amended) The method according to claim 137, wherein each network node relaying the packet of data through a network to a final destination performs the exclusive-OR operation functional transformation on the adjunct to content

in the packet of data so that the adjunct is modified to include identifying information of all such network nodes by the time it reaches the final destination.

140. (Previously Presented) The method according to claim 137, wherein the adjunct is a watermark embedded in the content.

141. (Previously Presented) The method according to claim 137, wherein the adjunct is meta data associated with the content.

142. (Previously Presented) The method according to claim 137, wherein the adjunct is a signature related to the content.

143. (Currently Amended) A method implemented in a computer for extracting content distribution information from a packet of data, comprising: performing an exclusive-OR operation a plurality of times on sequentially performing an inverse transformation on and extracting content distribution information from an adjunct to content in the packet of data which has been received after being relayed through a plurality of network nodes so that identifying information for each of the plurality of network nodes is extracted one-at-a-time in inverse order of such relaying following each performance of the exclusive-OR operation until information of a source of the packet of data is detected, ~~wherein the content distribution information has been included in the adjunct using a functional transformation corresponding to the inverse transformation.~~

144. (Currently Amended) The method according to claim 143, wherein an exclusive-OR operation the functional transformation has been used to modify the adjunct with network node identifying information upon each relay of the packet of data from the source to a final destination.

145. (Cancelled).

146. (Cancelled).

147. (Previously Presented) The method according to claim 143, wherein the adjunct is a watermark embedded in the content.

148. (Previously Presented) The method according to claim 143, wherein the adjunct is meta data associated with the content.

149. (Previously Presented) The method according to claim 143, wherein the adjunct is a signature related to the content.

150. (Currently Amended) The method according to claim 143, wherein the content distribution information includes information of an approximate time for each relay of the packet of data from an initial time that the packet left a source node to a current time associated with the extracting of network node identifying content ~~distribution~~ information from the adjunct to content in the packet of data.

151. (Previously Presented) The method according to claim 150, wherein the approximate time includes information of a time zone associated with the approximate time.

152. (Cancelled).

153. (Currently Amended) The method according to claim 143~~[[152]]~~, wherein ~~the network node~~ identifying information for each network node includes an IP address for the network node.

154. (Currently Amended) The method according to claim 143, wherein the method is performed by a BOT received over the network by and running on the computer. on the network.

155. (Cancelled).

156. (Cancelled).

157. (Currently Amended) An apparatus for extracting content distribution information from a packet of data, comprising an extraction computer configured to perform an exclusive-OR operation a plurality of times on sequentially ~~perform an inverse transformation on and extract content distribution information from~~ an adjunct to content in the packet of data which has been received after being relayed through a plurality of network nodes so that identifying information for each of the plurality of network nodes is extracted one-at-a-time in inverse order of such relaying following each performance of the exclusive-OR operation until information of a source of the packet of data is detected, ~~wherein the content distribution information has been included in the adjunct using a functional transformation corresponding to the inverse transformation.~~

158. (Cancelled).

159. (Cancelled).



160. (Cancelled).

161. (Currently Amended) The apparatus according to claim 157, wherein the extraction computer is configured to determine a network topology from information provided by ~~perform~~ as a BOT that has performed an exclusive-OR operation on each adjunct to content encountered by the BOT while scouring the network so that network node identifying information is extracted therefrom. ~~on the network.~~